CLAIMS

1. An ultrasound imaging hardware and software pack (16) composed of a hardware part for ultrasound imaging preprocessing and of a software part intended to be installed on a microcomputer, the hardware part including at least one ultrasound probe (17) connected (17A) to a module (18) of electronic circuits at least part of which is configurable, this module comprising analog FEC circuits (31), an assembly of analog/digital converters (32), an array of logic electronic gates (33, 34) and a high throughput link (35) between this module and the microcomputer, the software part being stored on a removable medium (26).

2. The pack as claimed in claim 1, characterized in that the array of electronic gates is software configurable into specialized chips for channel formation (33), into a distributed memory, into digital filters, demodulator and control interface (34).

3. The pack as claimed in claim 1 or 2, characterized in that the software part configures the configurable elements of the hardware part (32, 33, 34) and installs, on the microcomputer, programs for calculating and presenting ultrasound imaging data.

4. The pack as claimed in claim 3, characterized in that the programs installed on the microcomputer comprise programs for producing ultrasound images as gray levels and/or color Doppler images, and/or for producing continuous Doppler information and/or for displaying buttons for controlling processing parameters (13) and/or processing for merging with external data.

5. The pack as claimed in one of the preceding claims, characterized in that the analog/digital converter is of the software configurable sigma-delta type.

6. The pack as claimed in claims 2 to 5, characterized in that the array of electronic gates comprises circuits of Field Programmable Gate Arrays (FPGA) type.

7. The pack as claimed in one of the preceding claims, characterized in that the high throughput link transmits several digital channels.

8. The pack as claimed in one of the preceding claims, characterized in that the high throughput link is of IEEE1394 type.

9. The pack as claimed in one of the preceding claims, characterized in that it is incorporated into a medical instrumentation assembly.

10. The pack as claimed in claim 9, characterized in that the instrumentation assembly comprises equipment for surgery or for microsurgery.

11. The pack as claimed in claim 9 or 10, characterized in that the medical instrumentation assembly comprises apparatus providing medical data complementary to the ultrasound data.

12. The pack as claimed in claim 11, characterized in that the complementary medical data comprise at least one of the following data kinds: data from optical cameras, diagnostic and gynecological and/or cardiac monitoring data.